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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,348	02/23/2004	Katsuyuki Nakano	4775-00006	2313

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EXAMINER

NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

MAIL DATE	DELIVERY MODE
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05/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/784,348

Applicant(s)

NAKANO ET AL.

Examiner

Cam N. Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/26/07 (an amendment/response).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 & 14-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicants' amendments and remarks, filed on 02/26/07, have been made of record and entered. Claims 1, 7, & 10 have been amended. Claims 11-13 have been canceled. Claims 14-15 have been added.

Claims 1-10 & 14-15 are currently pending in this application.

Claim Rejections - 35 USC § 112 (Second Paragraph)

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7 & 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Regarding claim 7, it is unclear as to whether the claim requires the catalyst to contain "platinum" at the claimed amount or the claimed amount being referred to any metal chosen from the metals listed in claim 6? Claim 6 listed "platinum" among four metals Pt, Rh, Ru, and Ni. If the claim required "platinum" as the catalyst metal then the way the claim is written is improper.

B. Regarding claim 14, the phrase "cutting bonds in a raft-shaped" is unclear as to what applicants intend. Thus, renders the claim vague and indefinite.

C. Regarding claim 15, the claim is incomplete. It does not particularly point what process step and condition is required in the claim. Thus, it renders the claim vague and indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hibi et al., "hereinafter Hibi", (US Pat. 6,852,667 B2) **taken together with** Deeba et al., "hereinafter Deeba", (US Pat. 5,145,825).

In the reference, Hibi discloses that it is known in the art to prepare a supported metal ruthenium catalyst by supporting ruthenium chloride on a carrier, drying the supported one, and heating the dried one in a hydrogen gas flow. Further, oxidizing a catalyst reduced by hydrogen. See col. 3, ln 56-65 of the reference. Suitable carrier materials including titania (see col. 36, ln 30-36).

Hibi discloses a known process of preparing a catalyst as described above, except for the titania supported metal carried on a carrier (or silica):

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such known silica carrier into the process of Hibi in order to achieve a coated catalyst material containing ruthenium oxide support on titania carried on silica having

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improved in mechanical strength because it is known in Deeba to do so (see Deeba at col. 9, claim 1).

The claimed titania content is met by the teaching of the reference (see Hibi at col. 90, claim 1).

Regarding claim 2-5 & 10, the claimed process conditions and the requirement of the use of titanium tetraalkoxide and alcohol by hydrosis to prepare titanium precursor and impregnate into the carrier appears conventional and known in the catalyst art. Thus, the claims are inherently met.

Regarding claim 7, while the Hibi reference does not specifically teach “platinum” and the claimed concentration, it is obvious to substitute the ruthenium metal with the platinum metal to obtain an effective catalyst because platinum is a known and useful catalytic active metal in the catalyst art. The optimum concentration of the platinum can also be predetermined to result in effective catalyst in such process because it is a result effective variable, in view of *In re Boesch*.

Response to Applicants' Arguments

6. Applicants' response filed on February 26, 2007 has been fully considered, but not deemed persuasive in view of the new ground of rejection(s) and/or objection(s) above.

Citations

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared attached.

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Conclusion

8. Claims 1-10 & 14-15 are pending. Claims 1-10 & 14-15 are rejected. No claims are allowed.

Contacts

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam N. Nguyen/

Nguyen/cnn

Primary Examiner

May 26, 2007

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